

CARADOC and SEVERN
VALLEY FIELD CLUB.

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RECORD OF BARE FACTS,
FOR THE YEAR 1932.

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*A List of the More Noteworthy
Observations made by Members
of the Caradoc and Severn
Valley Field Club and others.*

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1933.

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SHREWSBURY.

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The names printed in italics after occurrences recorded are those of the observers.

The names of Meteorological observers are given in the first table under that head.

ARCHAEOLOGY.

As no reports have come in from other members, I am afraid the following summary of archaeological doings and discoveries since our last Annual Meeting may prove somewhat incomplete, and I shall be only too pleased to receive any additions or suggestions before it goes to press.

Two events in the past year stand out as of especial importance in the history of archaeology in our county, *viz.*, the excavation of the hill-fort on Titterstone Clee, and the initiation of the Clun Town Hall Museum.

TITTERSTONE CLEE CAMP.

During the summer of 1932 the surviving portion of the great hill-fort on Titterstone Clee was surveyed and scientifically explored by the Ancient Monuments Department of H.M. Office of Works, represented by Mr. B. H. St. J. O'Neil and Mr. R. S. Simms. About a dozen sections were cut through the rampart, and the great inturned entrance on the south-east of the area, where post-holes and evidence of several periods of construction were discovered. Unfortunately, not a single sherd of pottery or any dateable object came to light. Trenches were cut also within the area, and across the newly-discovered northern entrance. A curious stone ring near the summit was excavated, and found to contain a deep central pit. No hut sites could be located, and Hartshorne's supposed stone circles drew blank. It is hoped to publish a full report this year.

CLUN MUSEUM.

There have been many fresh discoveries of flint implements in the Clun and Bishop's Castle area, but nearly all remained in private hands till recently, when, on 22nd September, 1932, the new Clun Town Hall Museum was opened to the public by Miss H. M. Auden, F.R.Hist.S., Chairman of the Council of the Shropshire Archaeological Society. Here a magnificent local collection has been garnered through the efforts of our members, Mr. H. C. Jones and Mr. T. Hamar, and is now available for permanent study. Mr. Jones and Mr. Hamar are to be most warmly congratulated on their great achievement, and we wish it all the success it so well deserves. The value of their work is enormously enhanced by the fact that every exhibit has been numbered and catalogued with full details of its discovery and, whenever possible, the site has been marked on the 6 in. O.S. map. The prehistoric collection includes specimens of certain well-known types of flint arrow-heads, which are unrepresented from any other sites in the Western Midlands. There are also numerous exhibits typical of the former life of the locality, and this "Bygoness" section will increase in importance as the scheme becomes better known, and accessions from the neighbourhood are gathered in.

ROMAN SHROPSHIRE.

The course of the aqueduct which supplied the baths at Viroconium has been traced by Dr. R. W. Pocock, F.G.S., of the Geological Survey, and we hope that his report and map will appear in the *Shropshire Archaeological Transactions*.

Our Roman Roads Committee had two more field days on the line of the Viroconium-Deva road, between Roden and Moston, near Hawkstone, and were able to trace on the ground the road previously

reported as revealed by air photographs. Near the north end of the third field, north of Harcourt Mill, I picked up on a heap of sand scratched out of the road a piece of the base of a pale red pot which, as Mr. Reginald Smith, V.P.S.A., Keeper of the Department of British and Mediaeval Antiquities in the British Museum, agrees, looks decidedly Roman.

Some worn scraps of Roman pottery have been found in a field near the old ford at Clunbury, which has also produced flint implements and other objects of interest, and this is being watched for further evidence.

DYKES.

Dr. Cyril Fox, F.S.A., Director of the National Museum of Wales, has completed his field survey of Wat's Dyke, the southern part of which is in Shropshire, and a complete survey of the Short Dykes of the Marches is in progress. His full report on the survey of Offa's Dyke "from sea to sea" were published in *Archaeologia Cambrensis*, 1926-1931; the 3rd, 4th and 5th Reports, 1928-30, are of special importance to Salopians.

MEDIAEVAL AND LATER.

The Office of Works continues its great work of preservation at Acton Burnell Castle and Haughmond Abbey. Several sites in the county have been submitted for scheduling under the Ancient Monuments Act.

Mr. B. O'Neil visited the supposed amphitheatre at Cheney Longville, and found it to be merely the remains of the courtyard of a mediaeval motte-and-bailey castle, of which the remnants of the mound are also traceable: it was doubtless the predecessor of the moated manor house nearby.

At the beginning of September, 1932, the Cambrian Archaeological Association held its Annual Meeting at Newtown, and on two days sites within our borders were visited, in the Churchstoke, Clun and Bishop's Castle region. Descriptive records have appeared in the December part of the 1932 volume of *Archaeologia Cambrensis*. Of particular interest is the photograph of the carved oak beam over the fireplace of the kitchen in Lower Spoad Farm, west of Clun, said to have been a hunting lodge of the Earls of Powis: a stag hunt is depicted in bold relief, and two kinds of hounds are shown. A date of about 1550 was suggested for the carving.

SHREWSBURY.

In Shrewsbury we are witnessing numerous changes, notably in the new Car Parking Place around Rowley's Mansion. Here, although we may lament the disappearance of some picturesque but dilapidated old houses, we may be thankful that the best of the ancient material is being used up in the shelter under construction, and that the whole proceeding is supervised by our Borough Surveyor, Mr. Ward, to whose influence or design Shrewsbury owes the fitting character of so many of its fine new buildings.

Whitehall has been saved by the Society for the Preservation of Ancient Buildings, which purchased the property last August, but I understand that it has not yet been decided to what use it is to be devoted.

The Society desires to let it to a tenant who would take a sympathetic interest in this historic house.

LILY F. CHITTY.

7th February, 1933.

BOTANY.

PHANEROGAMIA (FLOWERING PLANTS).

Few records or observations have been received and the following are due to those enthusiastic members, Miss E. R. Lloyd (Gobowen) and Mr. George Potts (Benthall). The Roman numerals refer to the thirteen Botanical Sub-divisions of the county, as portrayed upon the Caradoc Special Map.

A. A. DALLMAN.

Clematis Vitalba, L.

- XII. Lower Forge at Eardington, near Bridgnorth. *G. Potts*. Observations on the pollination and insect visitors of this species would be very acceptable. *Dallman*.

Trollius europaeus, L.

- VI. In addition to stations before noted (Wern and Llynclys Hill) I found this growing very freely in a field near Porth y waen (near Llynclys Hill). *Miss E. R. Lloyd*. It would be of interest if this were kept under observation during the flowering season and record kept of the insect visitors. A special look out should be kept for the fly *Chiastochaeta trollii* Zett., which is specially associated with the flowers, and which was recently added to the British list as a result of observations in Denbigh and Caernarvon (see *North Western Naturalist*, vi., 1931, pp. 221-23). *Dallman*.

Aquilegia vulgaris, L.

- VI. Three or four plants on Llynclys Hill. *Miss E. R. Lloyd*.

Arabis hirsuta Scop.

- VI. Llynclys Hill. *Miss E. R. Lloyd*.

Helianthemum Chamaeclstus, Mill. = vulgare Gaertn.

- VI. Carpets certain parts of Llynclys Hill. *Miss E. R. Lloyd*.

Geum rivale, L.

- VI. Still grows in a wet patch on Sweeney-Porth y waen Road. *Miss E. R. Lloyd*.

Poterium Sanguisorba, L.

- VI. Plentiful on Llynclys Hill. *Miss E. R. Lloyd*.

Myrrhis odorata, Scop.

- XII. Oldbury, near Bridgnorth. A solitary plant. *G. Potts*. Has this any present-day application in Shropshire or North Wales? *Dallman*.

Foeniculum vulgare, Mill.

- VI. Near a lime kiln at Porth y waen. *Miss E. R. Lloyd*.

Erigeron aere, L.

- VI. Near a lime kiln at Porth y waen. *Miss E. R. Lloyd*.

Antennaria dioica, Gaertn.

- VI. Found this once more on Llynclys Hill. *Miss E. R. Lloyd*. Which type of plant occurs here?

Achusa sempervirens, L.

- XII. Oldbury, near Bridgnorth. In fair quantity. *G. Potts*.

Lamium maculatum, L.

- XII. A **Lamium** with mainly unstriped green leaves, growing for some years, and rapidly increasing, in the Avenue, Benthall, has been referred by authorities at Kew to this species. *G. Potts*. This may possibly prove to be the immaculate form or variety which has been designated *laevigatum L.*, and which has been noted in Denbighshire. *Dallman*.

Viscum album, L.

- VIII. On Sallows at Whitwell, near Much Wenlock. *G. Potts*.
 XII. On **Populus nigra**, near Chelmarsh. *G. Potts*.

Ophrys apifera, Huds.

- VI. Porth y waen. My first time of finding it. Appeared comparatively plentiful this year (1932), as some friends of mine found a number in another place. *Miss E. R. Lloyd*.

Triglochin palustre, L.

- VI. In a field near the Sweeney-Porth y waen Road. *Miss E. R. Lloyd*. Specimens of Aphids frequenting this plant would be welcomed. *Dallman*.

ZOOLOGY.

It is satisfactory to note that the Red Squirrel is more numerous than ever around Bridgnorth, whilst it is gradually increasing elsewhere. No Grey Squirrels were reported in 1932. On the other hand, the introduced Musk Rat has increased to such an extent as to be a serious pest. The Polecat is getting numerous in Merioneth. Several were obtained in Montgomeryshire, and two in Shropshire on the border.

Amongst birds perhaps the most interesting record is the nesting of the Siskin in Shropshire in 1931 and 1932. The Cuckoo arrived early, and continued in song to the end of June, and one even on July 9th. The Swift also came early—one on April 22nd. A pair of Spotted Flycatchers reared three broods at Oswestry, and three pairs of Tufted Duck nested on Betton Pool.

From North Wales comes a record of a Baillon's Crake, on January 7th, at Aberdovey, where, also, a Chiffchaff wintered 1931-32, and a Greenshank stayed throughout the year from the beginning of February. The Lesser Spotted Woodpecker nested for the second year at Aberystwyth. At Bodorgan, Anglesey, a colony of Great Black-backed Gulls numbers between 40 and 50 pairs; when my *Vert. Fauna* was published, there were nowhere more than 3 or 4 pairs together.

Several Monk Fish were caught on the Merioneth coast in July; and a Sturgeon in June. In May a Sand Pride (the smallest of the Lampreys) was taken in the River Onny—a new record for that stream.

H. E. FORREST.

MAMMALS.

Talpa europaea (Mole). *Potts and others.* June, many found dead above ground, uninjured; query, cause of death. *Mrs. M. Kershaw.* September, Stoat and Mole caught in same trap, Aberdovey; photo in *Country Life*.

Neomys fodiens (Water Shrew). *Potts.* December 6th, one dead close to Benthall House; only second example noted here—last seen 1929. No water near here.

Felis sylvestris (Wild Cat). *Pitt.* A Wild Cat (male) got from Scotland when about 3 weeks old, became partially tame, paired with a female Domestic Cat, and had by her several litters. See paper in *C.F.C. Transactions*. Another litter is expected, and Miss Pitt offers a kitten to anyone who is interested, and will give it a good home.

Mustela putorius (Polecat). *Bible.* Many trapped Aberdovey district, including several of the red variety, and a hybrid Polecat-Ferret with grey hindquarters. *Potts.* Examples from Lake Vyrnwy and Cemmes preserved by Shelbrook, Bridgnorth. *Huxley.* Two sent in for preservation from Bishop's Castle district—one in February, the other in December. *Forrest.* These records indicate that the Polecat has in recent years spread from its Cardiganshire stronghold, first into Merioneth, then into the neighbouring part of Montgomeryshire, and now across the border into Shropshire.

- Meles meles** (Badger). *Pitt.* Plentiful and increasing, Bridgnorth.
- Lutra lutra** (Otter). *Corbet Edwards.* November 26th, shot one hiding in brambles, Worthen, a mile from nearest stream.
- Halichaerus grypus** (Grey Seal). *Bible.* April 27th, Aberdovey; October 28th, one 4 ft. long washed up dead.
- Sciurus vulgaris** (Squirrel). *Bible.* January 4th, one seen Aberdovey; one or two subsequently on several occasions. *Pitt.* About Bridgnorth more numerous than ever. *Forrest.* Increasing slowly round Shrewsbury.
- S. carolinensis** (Grey Squirrel). *Forrest.* Glad to say none reported in Shropshire 1932.
- Muscardinus avellanarius** (Dormouse). *Elliott.* January 31st, nest, Dowles. *Pitt.* Quite disappeared Bridgnorth, and Shrewsbury (*Forrest*).
- Mus musculus** (Mouse). *Potts.* November, two more black mice—one in cornstack at Benthall House, the other seen in house near Ironbridge Station. April 25th, another caught in house next to Mr. Pott's.
- Apodemus sylvaticus wintoni** (Yellow-necked Mouse). *Pitt.* Numerous, Bridgnorth.
- Microtus hirtus** and **Eutamias glareolus**. *Pitt.* Both Voles rather low in numbers, Bridgnorth.
- Fiber zibethica** (Musk Rat, or Musquash). Introduced from North America to Shrawardine on the Severn to breed for its fur; has multiplied to such an extent as to be a serious pest requiring steps to exterminate it.
- Oryctolagus cuniculus** (Rabbit). *Pitt.* Less numerous, Bridgnorth. Quite scarce in places.
- Hyperoodon rostratus** (Bottle-nosed Whale). *Cambrian News.* January 21st, a young one, 11 ft. long, came ashore Llanbedrog, and was shot.

BIRDS.

- Turdus viscivorus** (Mistle Thrush). *Forrest.* February 2nd, one singing, Meole, during fog. *Thomas.* Abergele, several nests with 5 eggs; only once before found with 5 eggs. *Potts.* April, one singing in pear tree, nest only $7\frac{1}{2}$ ft. from ground, Broseley. *Congreve.* April, pair whose nest was taken, built another in exactly the same spot, and laid eggs.
- T. philomelos** (Song Thrush). *Forrest.* January 20th, three singing Meole, very mild weather. *Walker.* February 28th, one seen taking worms to feed young, Bayston Hill. *Potts.* April 24th, young out of nest, Broseley. *Elliott.* July 10th, seen to eat Black Slug (*Arion ater*).
- T. musicus** (Redwing). *Bible.* March 2nd, Towyn. *Salter.* October 23rd, Aberystwyth; November 5th, considerable passage southwards. *Congreve.* 4th, Denbigh.
- T. pilaris** (Fieldfare). *Bible.* March 2nd, Aberdovey. Re-appeared November 7th, Aberdovey, and Dowles (*Elliott*), Aberystwyth (*W. Miall Jones*). *Congreve.* 4th, Denbigh.

- T. Merula** (Blackbird). *Bible*. February 23rd, singing, Aberdovey. *Shrewsbury Chronicle*. January 28th, pair nesting Acton Burnell. *Walker*. February 4th, fledglings out of nest in garden, Crescent Lane, Shrewsbury; remarkably early. *Forrest*. A perfectly white male has been in a certain place in Shropshire during the last two years.
- T. torquatus** (Ring Ouzel). *Salter*. March 20th, Carmarthen Van. In August, seen feeding on bilberries, Cader Idris.
- Oenanthe oenanthe** (Wheatear). *Bible*. March 16th, Aberdovey; about 12 next day—males. *Thomas*. April 26th, Abergele. *Salter*. Aberystwyth; May 5th, still on passage, Borth, southward movement noted August 20th; last seen October 5th. *Congreve*. March 19th, two, Llyn Aled.
- Saxicola rubetra** (Whinchat). See Cuckoo. *Salter*. May 4th, Aberystwyth. *Congreve*. 8th, Denbigh.
- S. torquata** (Stonechat). *Bible*. November 4th, 5 or 6 pairs, Aberdovey; seen to keep in pairs throughout the year.
- Phoenicurus phoenicurus** (Redstart). *Elliott*. May 1st, Dowles and Denbigh (*Congreve*). *Bible*. 7th, M. and F., Aberdovey; 30th, nest.
- Luscinia megarhynchos** (Nightingale). *Potts*. May 18th, Broseley.
- Sylvia communis** (Whitethroat). *Thomas*. Fewer, Abergele; first, May 3rd. *Bible*. May 1st, Aberdovey. *Forrest*. 4th, Meole. *Potts*. 8th, Broseley. *Congreve*. 5th, Denbigh. *Lang*. 14th, Ludlow.
- S. curruca** (Lesser Whitethroat). *Thomas*. Fewer, Abergele; first May 3rd. *Elliott*. 6th, Dowles, and Aberystwyth (*Salter*).
- S. atricapilla** (Blackcap). *Thomas*. Increased, Abergele. *Bible*. April 22nd, Aberdovey. *Thomas*. 23rd, Abergele, and another 25th. *Elliott*. 29th, Dowles. *Potts*. May 16th, Broseley.
- S. borin** (Garden Warbler). *Potts*. April 30th, Broseley. *Elliott*. May 10th, Dowles, and Abergele (*Thomas*). *Bible*. 17th, Aberdovey. *Salter*. 8th, Aberystwyth. *Congreve*. 5th, Denbigh.
- Phylloscopus collybita** (Chiffchaff). *Bible*. March 25th, two, Aberdovey; two singing, September 27th; one spent winter, 1931-32, there. *Chitty*. March 28th, Yockleton, seen and heard. *Elliott*. April 5th, Dowles, and Abergele (*Thomas*). *Potts*. 13th, Willey. *Forrest*. 19th, Meole. *Congreve*. 2nd, Denbigh.
- P. trochilus** (Willow Wren). *Thomas*. June 6th, Abergele, nest 6 eggs (with one egg of Whitethroat) superimposed on Whitethroat's nest containing another Whitethroat egg; one, April 12th; two more, 13th. *Potts*. Two, Willey, 13th. *Elliott*. Dowles, 14th. *Bible*. Aberdovey, 15th. *Potts*. Ironbridge, 20th. *Forrest*. 23rd, Bayston Hill; numerous, 25th. *Hodges*. 26th, Cleobury North. *Congreve*. 21st, Denbigh.
- P. sibilatrix** (Wood Wren). *Thomas*. Increased, Abergele; first, April 30th; and at Aberystwyth (*Salter*) and Aberdovey (*Bible*). Many singing there May 5th. Nuptial display, "floating from branch to a nearby tree almost in the manner of a Tree Pipit." *Congreve*. May 7th, Denbigh.
- Acrocephalus schoenobaenus** (Sedge Warbler). *Bible*. April 29th, Aberdovey. *Congreve*. 30th, Denbigh. *Elliott*. May 8th, Barnt Green, and Abergele (*Thomas*).
- Locustella noevia** (Grasshopper Warbler). *G. W. Parkinson*. May 7th, several heard and seen, Ercall Hill, Wellington, Salop. *Salter*. April 27th, Aberystwyth. *Congreve*. 30th, Denbigh. *Pitt*. June, two pairs, Albynes, Bridgnorth; first for some years.

- Ægithalos caudatus** (Long-tailed Tit). *Bible*. Now fairly common, Aberdovey; November 14th, a mixed party working belt of trees (43 in all) included Long-tailed, Blue, Coal, and 3 or 4 Great Tits. *Thomas*. May 5th, nest on top of last year's Blackcap nest in small briar, Abergele.
- Parus palustris** (Marsh Tit). *Col. C. S. Price-Davies*. Quite numerous, Marrington.
- Sitta europæa** (Nuthatch). *Bible*. May 10th, nest and young, Penarth, Towyn. *Forrest*. September, one came into my garden and hunted over bark of pine tree. First seen actually in garden at Bayston Hill.
- Troglodytes troglodytes** (Wren). *Col. C. S. Price-Davies*. January 11th 1933, nest three-parts built, Marrington.
- Motacilla alba** (White Wagtail). *Bible*. April 24th, between one and two hundred, Aberdovey. *Furley*. May 5th, one with number of Pied Wagtails, Llangollen. *Salter*. May 5th, a good many in small flocks passing north, Borth.
- M. alba yarrellii** (Pied Wagtail). *Elliott*, in *British Birds*, October: "Both birds of a pair built a nest independently." *Salter*. September 2-15th, on move southward, Aberystwyth.
- M. cinerea** (Grey Wagtail). *Congreve*. Denbigh, nest in recess where brick missing in wall; far from water; cuckoo egg in it.
- Anthus trivialis** (Tree Pipit). *Thomas*. April 17th, few Abergele. *Bible*. 22nd in Dolgelley. *Elliott*. 24th, Dowles; *Congreve*. 27th, Denbigh. *Potts*. May 1st, Broseley, and Aberystwyth (*Salter*.)
- A. pratensis** (Meadow Pipit). *Bible*. April 6th, evening, numbers on hillsides, Aberdovey, and others coming in from south; October 10th, a considerable movement from east to west.
- Muscicapa striata** (Spotted Flycatcher). *Thomas*. May 9th, two Abergele. *Salter*. 14th, Devil's Bridge and Llanidloes. *Bible*. 17th, Aberdovey, and Dowles (*Elliott*); July 9th, sitting again, Dowles. *J. H. Owen*, in *British Birds*, November, records a pair rearing 3 broods, Oswestry. *Congreve*. May 17th, Denbigh.
- M. atricapilla** (Pied Flycatcher). *Furley*. May 3rd, male, Llangollen. *Thomas*. 5th, Abergele. *Bible*. 17th, Talylyn. *Salter*. April 29th, Devil's Bridge numerus.
- Hirundo rustica** (Swallow). *Potts*. April 10th, one, Willey, and Shrewsbury; two (*J. H. Tomkinson*) 14th, many 16th. *Bible*. Aberdovey, one 12th, *Cottam*. Oswestry, April 14th; last seen, October 5th. *G. W. Parkinson*. Cressage, 17th. *Morris*. Bridgnorth, 19th; Battlefield (*Miss Lloyd Jones*) and Broseley (*Potts*). *Thomas*. 24th, Abergele, and many at Dowles (*Elliott*). *Hodges*. 25th, Cleobury North. *Gepp*. 16th, Shrewsbury. *Potts*. Last seen, October 13th, and one 15th. *Fulcher*. 31st, six passing Shrewsbury. *R. J. Pugh*. November 26th, one, Shrewsbury. *Bible*. 8th, Aberdovey. *Congreve*. April 21st, Denbigh.
- Delichon urbica** (House Martin). *Thomas*. Increased, Abergele. *Bible*. April 24th, Aberdovey, and Montford Bridge (*Parkinson*). *Forrest*. 25th, Lyth Hill and Atcham. *Hodges*. 26th, Cleobury North. *Thomas*. 27th, Abergele. *Forrest*. 28th, pair returned to Mr. Stant's house, Meole, and immediately began to build on relics of last year's nest; completed it by 30th; several Bayston Hill, May 3rd. *Potts*. 2nd, Broseley. *Elliott*. 5th, Dowles. *Gepp*. 6th, Shrewsbury. *Bible*. June 10th, carrying

- food to nest; last seen October 31st. *Salter*. April 24th, Aberystwyth; bird of the year about the College till November 13th. *Congreve*. May 1st-October 10th, Denbigh.
- Riparia riparia** (Sand Martin). *Miss Lloyd Jones*. April 13th, Battlefield, and Port Hill on 21st. *Elliott*. 22nd, Dowles. *G. W. Parkinson*. 24th, Montford Bridge. *Potts*. May 3rd, Bridgnorth and Aberdovey (*Bible*). *Gepp*. 6th, Shrewsbury. *Salter*. March 31st, Aberystwyth. *Congreve*. April 30th, Denbigh.
- Carduelis spinus** (Siskin). *Forrest*. At least two pairs reared broods in Shropshire in 1932, and one pair in 1931. The nests were in damson trees in orchard.
- C. linaria** (Redpoll). *Furley*. Small party, Cound, throughout January.
- C. carduelis** (Goldfinch). *Elliott*. January 11th, charm of about 20 in orchard, Dowles. *Bible*. Also at Aberdovey, not more than a dozen; October 31st, flock of 28. *Jackson*. January 20th, flock, Wroxeter.
- Fringilla montifringilla** (Brambling). *Potts*. November 11th, Brosely; many, 13th. *Bible*. January 9th, Aberdovey.
- F. caelebs** (Chaffinch). *Dr. F. S. Jackson*. July, one seen with two small fish in its beak by Bala Lake. *Bible*. February 13th, Aberdovey, flock between 1-200, nearly all males; October 10th and 11th, Considerable movement east to west, one flock apparently all females.
- Emberiza cirius** (Cirl Bunting). *Thomas*. Fewer, Abergele.
- E. calandra** (Corn Bunting). *Bible*. April 24th, Aberdovey, not common here now. *Salter*. None now, Aberystwyth.
- Sturnus vulgaris** (Starling). *Bible*. October 28th, parties passing east to west all morning, Aberdovey; November, big "roost" in Cemetery Marsh; December 8th, parties passing east all day. The cemetery roost is abandoned by Christmas, because the reeds are broken down. There appears to be another roost on the Broadwater, Towyn. *Potts*. December, pure white one seen repeatedly in Brosely. *J. Adams*. September 6th, Another near Shrewsbury. *Thomas*. September, creamy-white one feeding with others and poultry, Abergele.
- Pyrhocorax pyrrhocorax** (Chough). *Bible*. Aberdovey; two on February 13th, and April 8th; only one seen towards close of the year. As many as 8 a few years ago.
- Corvus corax** (Raven). *Bible*. A good many breed, Aberdovey district; nest 2 eggs, March 1st. *Bayley*. Seen, Wentnor, September 30th, and early December, Longmynd.
- C. frugilegus** (Rook). *Huxley*. October 11th, weather mild, one came into yard of house in Dogpole, Shrewsbury, and took small meatbone from fingers of Mrs. Huxley.
- C. corone** (Crow). *Bible*. June 5th, one seen to carry off one of brood of six young Sheld Duck, Aberdovey. *Elliott*. July, one with brood made frequent raids on cherries in orchard, Dowles.
- C. monedula** (Jackdaw). *Potts*. May 2nd, one seen on cow's back plucking vigorously; flew away with beak full of hairs—the cow did not show objection.
- Lullula arborea** (Woodlark). *Elliott*. April 5th, Dowles. *Salter*. Llanidloes, singing, April 30th and June 15th.
- Cypselus apus** (Swift). *G. W. Parkinson*. April 22nd, one flying north-west, Wellington. *J. H. Tomkinson*. 25th, two passing over Shrewsbury; three at Cotton Hill, 28th (*Gepp*). *Bible*. Aberdovey, one April 28th; then none till May 4th; more 7th. *Potts*. April 29th, one Ironbridge. *Cottam*. Oswestry, 3 or 4

- on 30th and May 1st; then none till 7th. *Furley*. 3rd, Llangollen. *Elliott*. 5th, Dowles, flock passed over on 7th. *Forrest*. The Shrewsbury Swifts departed 29th, 30th July; returned 5th August for one day only, and then left again. *Cottam*. Last seen August 14th, and 22nd, Aberystwyth (*Salter*). *Congreve*. May 5th-August 10th, Denbigh.
- Caprimulgus europaeus** (Nightjar). *Potts*. May 26th, Benthall and Towyn (*Bible*). Four or five pairs, Broseley this year. *Bayley*. August 29th, one egg, Burwarton—very late.
- Dryobates major** (Great Spotted Woodpecker). *Elliott*. April 23rd, displaying on the wing, Dowles. *Bible*. 24th, jarring, Aberdovey. *Salter*. more common than Green W. now, Aberystwyth.
- D. minor** (Lesser Spotted Woodpecker). *Thomas*. Wintered (with the two other species of Woodpecker), Abergele. *Salter*. Nested again near Aberystwyth.
- Cuculus canorus** (Cuckoo). *Thomas*. May 30th, egg in Whinchat's nest with 5 W. eggs, Holywell. *Furley*. March 24th, Cound. *Elliott*. April 21st, calling freely, Dowles. *Sankey*. Baschurch, 22nd, and Broseley (*Potts*), where reported on 17th and 19th. *Gepp*. Pontesford, 23rd. *Bible*. 24th, Aberdovey. *Forrest*. 26th and daily after, Bayston Hill. *Cottam*. 28th, Oswestry, two calling and one flying. *Elliott*. May 1st, one female and 2 males, Dowles; June 21st, male and female heard, and on 23rd. *Forrest*. Heard in several places, 23rd; did not "change its tune" up to that date. *F. Preece*. 27th, heard Wattlesborough. *Congreve*. April 16th, Denbigh; last heard July 9th—very late date. Three different Cuckoos (each a different type of egg) laid in nests of (2) Pied Wagtail, and (1) Grey Wagtail.
- Upupa epops** (Hoopoe). *Eric Hardy* in *British Birds*, August: "June 11th, one Birkenhead."
- Alcedo ispida** (Kingfisher). *Bible*. February 13th, one sitting on branch was not disturbed by train passing within 15 yards, Aberdovey.
- Tyto alba** (Barn Owl). *Bayley*. Three nesting pairs, Abdon, and two, Millichope. *Sankey*. November 8th, one alighted on Miss Sankey's shoulder while she was watching for flighting duck.
- Strix aluco** (Brown Owl). *Mrs. Sykes*. In 1931 and 1932 a pair had nest in ivy on wall of the Rangers' Lodge, Hawkstone.
- Athene noctua** (Little Owl). *Thomas*. May 6th, one, Abergele, for fortnight; not seen after. *Bayley*. Very common, Millichope.
- Buteo buteo** (Buzzard). *Bible*. Common, Aberdovey district; one individual "hovers" habitually like a Kestrel.
- Accipiter nisus** (Sparrowhawk). *Elliott*. July, remains of Cuckoo and Great Spotted Woodpecker at nest, Dowles. This year, pair which hitherto built own nest occupied last year's nest of Jay.
- Falco tinnunculus** (Kestrel). *Bible*. September 7th, one seen to capture large white butterfly.
- Phalacrocorax carbo** (Cormorant). *Bible*. March 4th, seen with white thigh-patches of breeding plumage.
- Sula bassana** (Gannet). *Bible*. June 3rd, several off Aberdovey; two on 24th and July 11th; also a dead one.
- Ardea cinerea** (Heron). *Bible*. April 20th, six nests, Penmaen Dyfi; saw parents visit four. Heronries at Abergele, near Dinas Mawddwy; Peniarth Isaf. Talgarth, Pennal, one nest, eggs

destroyed by Crows. *Salter*. Nearly 40 years ago found Herons here nesting in same trees with Rooks. March 17th, several nests containing young in spruce plantation above Llyn Ebyr, Llanidloes. *Corbett*. About Longnor increased in late years so as to be serious menace to fishing. *Hoare*. November 26th. One seen to kill and carry off young Peewit, Shrewsbury.

- Anser** . . . sp ? (Wild Goose). *Col. C. S. Price-Davies*. December 26th, a gaggle of 15 to 20 flying northwards high over Marrington and honking.
- Tadorna tadorna** (Sheld Duck). *Bible*. All those which nest along the Dovey Estuary leave after young are hatched. First seen on return, October 16th.
- Anas acuta** (Pintail). *Bible*. April 3rd, between 40 and 50; October 16th, over 60; December 16th, 98; on Dovey Estuary. The flocks come and go without any apparent reason.
- Spatula clypeata** (Shoveler). *Bible*. November 13th, 10 on Broadwater, Towyn—two of them adult males.
- Nyroca ferina** (Pochard). *Bible*. Noted (with Tufted Duck) on Tal-y-llyn and Dysynni.
- N. fuligula** (Tufted Duck). *Walher*. July, three pairs reared broods on Betton Pool. See above.
- Bucephala clangula** (Golden Eye). *Bible*. Small party on Dovey Estuary, January 22nd-February 6th; returned October 2nd. Only one adult male.
- Oidemia nigra** (Scoter). *Bible*. June 12th and 23rd, three males, Aberdovey—unusual in summer. Frequent on sea in spring, but seldom enter estuary.
- Mergus merganser** (Goosander). *Bible*. Fine adult male, Rhayader sent to Hutchings, Aberystwyth. Rarely seen in Dovey Estuary.
- M. serrator** (Merganser). *Bible*. March 10th-April 13th, parties on Dovey Estuary; returned September 18th. Males displaying, December 16th.
- Columba palumbus** (Wood Pigeon). *Bible*. November 14th, flock over 100 passing Aberdovey, N.W. to S.E. early morning, and smaller flocks during day. *Potts*. October 25th and onwards, migrating flocks passing Broseley district.
- Streptopelia turtur** (Turtle Dove). *Thomas*. May 7th, three, Abergele. *Potts*. 15th, Broseley.
- Phasianus** (Pheasant). *Potts*. December, hybrid Pheasant-Fowl shot near Cleobury Mortimer.
- Lyrurus tetrix** (Black Grouse). *Bible*. September 21st, one shot Corris; seen occasionally, Plynlymon range.
- Lagopus scoticus** (Red Grouse). *Bible*. June 6th, several heard Cwm Bychan. *Salter*. 9th, brood on Tregaron Bog.
- Crex crex** (Corncrake). *G. W. Parkinson*. May 1st, Sutton Maddock, and 7th, Admaston. *Cottam*. 8th, Oswestry. *Thomas*. 9th, Abergele. *Cottam*. Last heard July 7th. *Salter*. May 2nd, Aberystwyth. *Congreve*. April 28th, Seen Denbigh.
- Rallus aquaticus** (Water Rail). *Bible*. May 4th, one dead with broken skull, Aberdovey.
- Porzana bailloni** (Baillon's Crake). *Bible*. January 7th, one found dead, Aberdovey. Second record for North Wales. Sent National Museum, Cardiff.
- Gallinula chloropus** (Moorhen). *Bayley*. Marked increase in early part of year, Millichope district.

- Charadrius apricarius** (Golden Plover). *Thomas*. Flocks of 50 to 100 wintered with Peewits on the marshes and meadows, Abergele. *Bible*. March 11th, flock of 150 to 200, Tonfanau, a favourite resort; September 5th, small party near summit, Plynlymon. *Corbett*. December 22nd, flock about 20 flew over Lawley Farm with Peewits, but flocks quite distinct.
- Arenaria interpres** (Turnstone). *Bible*. May 29th, three, Aberdovey.
- Haematopus ostralegus** (Oyster Catcher). *Bible*. February 1st, one seen Bala Lake; January 24th, one seen swimming in shallow water, Aberdovey.
- Vanellus vanellus** (Peewit). *Huxley*. February 26th, pied one shot Alberbury. See under Heron.
- Scolopax rusticola** (Woodcock). *Elliott*. May 18th, three young, flushed, Dowles. *Potts*. 28th, pass over 10 p.m. from Benthall Edge towards Willey. *Bayley*. Nest, Upper Millichope.
- Tringa hypoleuca** (Sandpiper). *Bible*. April 24th, Aberdovey. *Salter*. 30th, Aberystwyth. *Congreve*. 28th, Denbigh.
- T. nebularia** (Greenshank). *Bible*. February 3rd, one appeared Aberdovey, and remained throughout the year. Chum, a Redshank—the two feeding, etc., close together.
- T. calidris** (Redshank). *Bible*. February 6th, one seen, Aberdovey, to swim deep ditch instead of flying across; May 26th, two nests. *Forrest*. A pair nested for third successive year in marshy field behind Cruckton Cottage, near Shrewsbury.
- Numenius phaeopus** (Whimbrel). *Bible*. May 9th, flock 27, Towyn; June 13th, one heard, Aberdovey.
- Hydrochelidon nigra** (Black Tern). *Salter*. April and May, a pair at Trawsfynydd Lake.
- Sterna hirundo** (Common Tern). *Bible*. June 29th, two at mouth of the Dysynni.
- S. albifrons** (Lesser Tern). *Bible*. May 4th, 5 or 6, Aberdovey; 24th, carrying sand-eels. Local nesting colonies much reduced.
- Larus marinus** (Great Black-backed Gull). *Oldham*. May 7th, between 40 and 50 pairs in breeding colony, Bodorgan, Anglesey. Also about half that number of Lesser B.b.
- L. fuscus** (Lesser Black-backed Gull). *Salter*. None now breed Tregaron Bog.
- L. ridibundus** (Black-headed Gull). *J. H. Tomkinson*. April 22nd, Shrewsbury. *Salter*. August 7th, Aberystwyth, hawking flying ants. *Bayley*. April 6th, 14th and 15th, two flying towards Wenlock at Upper Millichope; evening, and always same direction.
- L. canus** (Common Gull). *Bible*. September 8th, flock 100, Towyn. *J. H. Tomkinson*. April 1st to 14th, a lot flying up and down Severn, Atcham. *Salter*. August 19th and October 9th, hawking flying ants, Aberystwyth.
- L. argentatus** (Herring Gull). *Elliott*. May 17th, 17 passed south over Dowles. *Bible* and *Salter*. Much increased on west coast of Wales during recent years. *Bayley*. May 16th, adult pair Upper Millichope; flying round for several minutes, and then towards Wenlock.
- Uria troile** (Guillemot). *Bible*. During September 70 Guillemots and Razorbills were found "oiled" between Llwyngwrl and Aberdovey, and had to be killed.
- Podiceps cristatus** (Great Crested Grebe). *Bible*. April 2nd, two, Penmaenpool. Mrs. Richards reports a pair nested Trawsfynydd Lake, as last year. Dec. 20th, one on sea, Aberdovey. *Salter*. March 17th, the usual pair on Llyn Ebyr.

- Colymbus immer** (Great Northern Diver). *Bible*. October 3rd, one, Dovey Estuary.
C. stellatus (Red-throated Diver). *Bible*. April 21st and October 7th, one, Aberdovey.
Puffinus puffinus (Manx Shearwater). *Bible*. May 28th, One found injured, Aberdovey.

REPTILES AND AMPHIBIANS.

- Lacerta vivipara** (Lizard). *Bible*. May, seen in sandhills, Towyn.
Anguis fragilis (Blindworm). *Elliott*. May 19th, six found while rebuilding rockery wall, Dowles; July 5th, one 17 inches long seen frequently in spring, and another with it equally as large; evidently measuring it scared it—not seen after.
Rana temporaria (Frog). *Bible*. March 17th, spawn, Aberdovey; 24th, tadpoles.
Bufo vulgaris (Toad). *Elliott*. February 2nd, "in song," Dowles.
Molge palmata (Palmate Newt). *Egerton Hine*. One in aquarium from bathing pool in Carding Mill Valley, Church Stretton.

FISHES.

- Esox lucius** (Pike). *Walker*. October, caught several Llyn Gwyddior, Montg.
Rhina squatina (Monk Fish). *Bible*. July 15th, one 53 inches long caught in net in Dovey Estuary. Two others were caught at Llwyngwrl, and a fourth at Barmouth, left in a shore pool.
Acipenser sturio (Sturgeon). *Cambrian News*. June, one caught Cardigan Bay.
Petromyzon branchialis (Sand Pride). *Forrest*. May 3rd, one brought me by Dr. Gepp, caught in the Onny by Mr. Lavender, Bishop's Castle.

ENTOMOLOGY.

LEPIDOPTERA.

Mr. James Hignett, of Oswestry, has sent a welcome list of Lepidoptera, which, he says, gets smaller every year. This is the only record for the past season.

In addition to Mr. Hignett's Lepidoptera list, he has sent lists of Dragon Flies (*Neuroptera Odonata*) and *Acarina*—Mites, which he hopes may be of interest. The latter is remarkable for the large number and variety examined in one season.

Mr. A. J. Barnes, who has worked for several years on the Coleoptera has persuaded Mr. Hignett to take up the subject. Mr. Barnes has formed a complete record of the county Coleoptera as far as he has been able to trace the records, and has forwarded it to Mr. Hignett to supplement. He has stipulated that the record should ultimately be considered the property of the Caradoc Club.

Our thanks are due to Mr. Barnes for his long-continued interest in the Coleoptera, and also for prevailing upon Mr. Hignett to take up the subject.

W. S. INGRAMS.

February, 1933.

LEPIDOPTERA.

BOMBYCINA.

LYMANTRIIDAE.

Stilpnotia salicis. At light in Oswestry, July 16th, 1932.

GEOMETRINA.

HYDRIOMENIDAE.

Chesias rufata. Bred May 27th, 1932. Larva from Nesscliffe.

Lobophora viretata. Candy Wood, May 22nd, 1932.

Eupithicia virgaureata. Bred May 19th, 1932. Larva from Llanymynech.

PYRALIDINA.

PHYCITIDAE.

Ephestia kuehniella. Oswestry, October 27th, 1932.

PYRAUSTIDAE.

Nymphula stagnata. Ellesmere Mere, July 23rd, 1932.

TORTRICINA.

EPIBLEMIDAE.

Ancyliis biarcuana. Whixall, June 10th, 1932.

Epiblema ophthalmicana. Rednal, September, 1932.

Hemimene sequana. West Felton, June, 1932.

Pammene regiana. Frankton, June, 1932.

TORTRICIDAE.

Capua favillaceana. Whixall Moss, June 3rd, 1932.

Tortrix rusticana. Racecourse, June 15th, 1932.

TINEINA.

SESIIDAE.

Trochilium crabroniformis. Whixall Moss, July 16th, 1932.

GELECHIADAE.

Aristotella tenebrella. Llanymynech Hill, July 8th, 1932.

ELACHISTIDAE.

Coleophora laricella. Llanymynech Hill, July, 1932.

— *laripennella*. Gobowen, July 12th, 1932.

— *murinipennella*. Llanymynech Hill, June 12th, 1932.

Elachista cerusella. Ellesmere Mere, July 23rd, 1932.

PLUTELLIDAE.

Glyphipteryx haworthana. Whixall Moss, June 10th, 1932.

TINEIDAE.

Nepticula fulgens. Candy Wood, May 22nd, 1932.

N. sublimaculella. Nesscliffe, June 9th, 1932.

Argyresthia cornella. Nesscliffe, July, 1932.

A. albistria. Common, July, 1932.

Adela rufimitrella. Halston, June 2nd, 1932.

NEUROPTERA

ODONATA (Dragonflies).

LIBELLULIDAE.

Leucorrhinia dubia. Whixall Moss, one, July 16th, 1932.

Sympetrum striolatum. I have two specimens, taken about 30 years ago on Welshampton Moss.

S. scoticum. Whixall Moss. Abundant in autumn.

Libellula depressa. I have a pair of these. Male taken near Llanforda Waterworks. Female, Welshampton Moss, about 30 years ago.

L. quadrimaculata. Whixall Moss, Common, June.

Cordulia aenea. Whixall Moss, Common, June.

AESCHNIDAE.

Cordulegaster annulatus. Mr. Pugh reports this from Penylan, and I have had it sent in from Llanfair Caer.

Aeschna juncea. Whixall Moss, Common, July, August and September.

A. cyanea. Somewhat scarce. I have only seen two this season.

A. grandis. Whixall Moss, Middleton, and all the Canals; common July and August.

AGRIONIDAE.

Calopteryx splendens. Mr. Pugh reports this from the Vyrnwy at Llansantffraid. I have seen it on the Severn at Llandrinio some years ago.

Pyrrosoma nymphula. Whixall Moss. Common June and July.

Isohnura elegans. Common all ponds and canals.

Agrion pulchellum. Whixall Moss. Probably common everywhere.

A. puella. Whixall Moss. Probably common everywhere.

Emallagma cyathigerum. Whixall Moss. Probably common everywhere.

ACARINA=Mites.

ORIBATIDAE=Beetle Mites.

PTEROGASTERINAE.

- Oribata alata*. Generally distributed ; not very common.
O. avenifera. Llanymynech Hill, Shrewsbury Road ; not very common.
O. cuspidata. Common everywhere on moss on walls.
O. fuscipes. Whixall Moss, in sphagnum, December, 1932 ; not very common.
O. globula. Common everywhere in moss.
O. gracilis. Racecourse, one, November, 1932.
O. lapidaria. Common everywhere in moss.
O. lucasii. Whixall Moss in sphagnum ; Llansaintffraid in moss.
O. mollicomis. Candy Wood, April, 1932.
O. orbicularis. Shrewsbury Road, April, 1932. Not very common.
O. piriformis. Shrewsbury Road, December, 1932. Not very common.
O. punctata. Abundant everywhere in moss, dead leaves.
O. quadricornuta. Common ; chiefly on hedge banks.
O. setosa. Common, chiefly on hedge banks.
O. fusigera. Gobowen, in moss, March, 1933.
O. sphagni. Whixall Moss, in sphagnum ; common.
Polops acromios. Common everywhere in dead leaves.
P. farinosus. Whixall Moss, in dead leaves ; not very common.
P. laevigatus. Common everywhere in dead leaves.
P. phaeonotus. Whixall Moss in sphagnum ; Llanymynech Hill in moss. Scarce.

APTEROGASTERINAE.

- Cepheus latus*. Common everywhere in dead leaves.
C. ocellatus. Racecourse Road, one in dead leaves, November 17th, 1932.
C. tegeocranus. Common everywhere in dead leaves.
Lelosoma ovatum. Common everywhere in dead leaves.
L. simile. Common everywhere in dead leaves.
Serrarius microcephalus. Llanymynech Hill in moss, June, 1932 ; Racecourse Road in dead leaves, November, 1932.
Seutovertex sculptus. Racecourse in lichen ; not very common.
Tegeocranus coriaceus. Candy Wood in fungus, April, 1932.
T. elongatus. Candy Wood in fungus, April, 1932 ; also in dead leaves.
T. labyrinthicus. Candy Wood in moss on wall, April, 1932.
T. latus. Llanymynech Hill in dead leaves, March, 1932.
T. marginatus. Llanymynech Hill in dead leaves, March, 1932.
T. velatus. Mile House, in moss on wall, December, 1932 ; Whixall Moss in sphagnum, May, 1932.
T. dentatus. Candy Wood, in fungus, April, 1932.
T. cepheiformis. Whixall Moss in sphagnum, May and December, 1932 ; not common.
Notaspis bifilis. Common in dead leaves.
N. exilis. Common in dead leaves.
N. tibialis. Common in dead leaves.
N. similis. Common in dead leaves.
N. lucorum. Common in lichen on walls and railings.
N. oblonga. Common in lichen and moss on walls.

- N. clavipectinata*. Whixall Moss in sphagnum, May, 1932 ;
Gobowen in moss, November, 1932.
- N. pectinata*. Gobowen, April, 1932, in Mole's nest.
- N. splendens*. Common in moss and dead leaves.
- N. lanceolata*. Whixall Moss in sphagnum ; common
December, 1932.
- N. lacustris*. Whixall Moss on algae and wet sphagnum ; common.
- Damaeus nitens*. Mile House, two in moss, December, 1932 ;
Gobowen scarce.
- D. verticillipes*. Mile House, December, 1932, in dead leaves ;
scarce.
- S. sufflexus*. Racecourse Road, May, 1932 ; Mile House, Decem-
ber, 1932 ; Gobowen, December, 1932.
- D. tecticola*. Mile House, one in moss, December, 1932.
- D. clavipes*. Common everywhere.
- D. geniculatus*. Common everywhere.
- D. auritus*. Common everywhere.
- Hermannia arrecta*. Whixall Moss, in dead leaves ; common.
- H. picea*. Common everywhere in dead leaves.
- H. nodosa*. Mile House, Gobowen, Racecourse in moss ; not very
common.
- H. nanus*. Whixall Moss in sphagnum ; common ; Racecourse,
April, 1932.
- H. bistriata*. Common in moss and dead leaves.
- Eremaeus cymba*. Racecourse, Gobowen, in lichen on stone gate-
posts ; common.
- E. brevipes*. Candy Wood on oak trees, May, 1932 ; common.
- Nothrus targionii*. Racecourse, two in dead leaves, May, 1932.
- N. sylvestris*. Common ; moss and dead leaves.
- N. palustris*. Common ; moss and dead leaves.
- N. spiniger*. Racecourse, in dead leaves ; locally common.
- N. horridus*. Racecourse, Mile House in moss on walls ; common.
- N. biverrucatus*. Racecourse in moss on wood ; common.
- N. blearinatus*. Candy Wood on oak trees, May, 1932 ; common.
- N. segnis*. Whixall Moss in dead leaves ; common.
- N. theleproctus*. Common everywhere in dead leaves.
- N. monodaetylus*. Whixall Moss in sphagnum ; common.
- Hypothonius rufulus*. Whixall Moss in sphagnum ; common.
- H. brevis*. Whixall Moss in sphagnum ; 4 specimens, December,
1932.
- Hoplophora magna*. Common everywhere in dead leaves.
- H. dasypus*. Common everywhere in dead leaves.
- H. stricula*. Whixall Moss in dead leaves ; common.
- H. ardua*. Whixall Moss in sphagnum ; common.

In addition to the above we have one *Notaspis* not recorded or described by Prof. Michael, of which we have found a number in sphagnum moss from Whixall during January, 1933.

TYROGLYPHIDAE.

- Glycyphagus domesticus*. Abundant everywhere.
- G. spinipes*. Warehouse, Oak Street, in dry animal matter.
- G. plumiger*. Warehouse, Oak Street, in dry animal matter.
- G. platygaster*. In Mole's nest, Gobowen, April, 1932.
- G. dispar*. In Mole's nest, Gobowen, April, 1932.
- G. crameri*. In Mole's nest, Gobowen, April, 1932.
- G. sciurinus*. On Squirrels.

Chortoglyphus areuatus. Llansaintffraid in stable, September 3rd, 1932.

Fusacarus laminipes. In Mole's nest, Gobowen, April, 1932.

Hericia robbi. In fermenting sap on elm trees; common.

Aleurobius farinae (Meal Mite). Common everywhere.

Rhizoglyphus echinopus. In damaged and decaying Hyacinth bulbs.

Tyroglyphus mycophagus. In decayed insects in a relaxing box, August, 1932.

T. siro. (Cheese Mites). Common everywhere.

T. longior (Cheese Mites). Common everywhere.

In addition to the above we have seven species of **Tyroglyphidae** not recorded or described by Prof. Michael, four of which are referable to the genus **Glycephagus**.

Collected in Oswestry district by K. Palmer, F.E.S., F.R.M.S., and J. Hignett during 1932.

Total number of **Oribatidae** recorded by Prof. Michael is 102, of which we have found 76, and one not recorded by him.

Tyroglyphidae contains 29 species.

These are the only families we have so far touched.

Nothrus targionii. Only one specimen of this has been previously recorded (Worcestershire).

Oribata gracilis. Michael only records two specimens of this—both found in nymph stage and bred by him.

Damaeus sufflexus. Michael only records 3 specimens of this from two localities. It is not scarce here, so must have been overlooked.

Some of the others have only been recorded from Lands End or Epping Forest.

SHROPSHIRE DIPTERA, 1932.

MYCETOPHILIDAE.

Mycetophila dentata (Lundst.). 1 m. March 24th.

M. fraterna (Winn.). 2 f. May and October.

Exechia dorsalis (Staeg.). 1 m. November 1st.

Zygomyia pictipennis (Staeg.). 1 f. November 1st. Window.

Boletina sciarina (Staeg.). 1 m. April 24th.

B. plana (Wlk.). 2 f. Whixall Moss, August 23rd.

Platyura nemoralis (Mg.). 1 f. Weston Coton, June 23rd.

Leptomorphus walkeri (Curt.). 1 m. July 10th, Broseley (G. Potts).

BIBIONIDAE.

Seatopse nigra (Mg.). Several. Candy Wood, July.

CHIRONOMIDAE.

Corynoneura scutellata (Winn.). Common. Whixall Moss, May 7th.

Diplocladius cuitriger (Kieff.). 2 m. Whixall Moss, May 7th.

Orthocladius melaleuca (Mg.). 1 f. March 28th.

O. rubicunda (Mg.). 5 m. June 29th.

Metriocnemus irritus (Wlk.). 2 m. April, May.

Cricotopus bicinctus (Mg.). 2 m. August 31st.

Tanypus melanurus (Mg.). 1 m. April 14th.

Eukiefferiella brevicalecar (Kieff.). 4 m. Lawnt, May 2nd.

Forelpomyia ciliata (Winn.). 1 f. Broseley, October 5th. (G. Potts).

F. picea (Winn.). 1 m. November 1st.

F. bipunctata (L.). 2 m., 1 f. September 2nd, at light.

F. titillans (Winn.). 1 m. Lawnt, August 22nd.

Culicoides chiopterus (Mg.). 1 m. Whixall Moss; 1 m. Oswestry. May.

X *Johannsenomyia inermis* (Kieff.). 1 f. Whixall Moss, August 29th (with remnants of male devoured after pairing).

Palpomyia nemorivaga (Goet.). 1 f. July 21st.

Bezzia ornata (Mg.). 1 m., 1 pair. July.

X *B. nigrifluta* (Ztt.). 1 m. Whixall Moss. May 30th.

LIMNOBIDAE.

Ula pilosa (Schum.). 1 m. Lawnt, August 19th.

Trichocera fuscata (Mg.). Numerous. Morda, October 5th.

TIPULIDAE.

X *Dictenidia bimaculata* (L.). Breeding in rotten birch, Whixall Moss, June 18th.

LEPTIDAE.

Spania nigra (Mg.). 1 m. Candy Wood, June 11th.

EMPIDAE.

Heleodromia stagnalis (Hal.). Llanforda, June 26th. Banks of pond.

Hemerodromia (Chelifera) *astigma* (Coll.). 1 m. Pant, June 17th.

DOLICHOPODIDAE.

Dolichopus pennatus (Mg.). 1 m. Morda, June 11th.

Porphyrops crassipes (Mg.). 1 m. Candy Wood; 1 f. Morda, June.

Campsicnemus magius (Lw.). In numbers. Whixall Moss, June 18th. Wet mud.

Sympyenus spiculatus (Gerst.). 1 m. Candy Wood, July 3rd.

Medeterus muralis (Mg.). 1 m. Candy Wood, June.

TACHINIDAE.

Actia crassicornis (Mg.). Two. June.

Ptychoneura rufitarsis (Mg.). July 16th.

ANTHOMYIDAE.

Phaonia laeta (Fln.). 1 m. Whixall Moss, August 8th.

Ph. goberti (Mik.). 1 m. August 31st.

Lispa tentaculata (Deg.). 1 m., several females. Melverley, May, July.

Pseudolimnophora triangula (Fln.). Candy Wood, August.

Fannia polychaeta (Stein.). 1 m. June 11th.

F. incisurata (Ztt.). 1 f. July 31st.

Chortophila cinerella (Fln.). 1 m. September.

Ch. trichodaetyla (Rnd.). 1 m. Morda, August 27th.

Ch. dissecta (Mg.). Common on flowers.

Ch. aestiva (Mg.). Common on flowers.

Ch. humerella (Ztt.). Several. August.

Allognosta agromyzella (Rnd.). 1 f. August 25th.

Coenosia decipiens (Mg.). 2 m. Candy Wood, August 10th.

HELOMYZIDAE.

Neoleria ruficauda (Ztt.). Several. Llanforda, on fungus, October 15th.

MICROPEZIDAE.

Micropeza lateralis (Mg.). 2 f. Nesscliffe, on broom, July (J. Hignett).

M. corrigiolata (L.). Fairly common. July, on potato leaves.

ORTALIDAE.

Ptilenota guttata (Mg.). 2 f. Broseley, May 29th (G. Potts).

SEPSIDAE.

Pandora (*Saltella*) *scutellaris* (Fln.). On cow dung, June-July.

Sepsis punctum (F.). 1 m. August.

Themira minor (Hal.). 2 m. June 25th and July 13th.

PIOPHILIDAE.

Piophila vulgaris (Fln.). June, August.

P. varipes (Fln.). Oswestry, Whixall, June, July.

EPHYDRIDAE.

Notiphila cinerea (Fln.). Common on water plants.

N. nigricornis (Stenh.). 1 m., 3 f. June.

Discocerina obscurella (Fln.). 1 f. February 28th.

Athyroglossa glabra (Mg.). 1 m. September 20th.

Caenia fumosa (Stenh.). 1 m. Whixall Moss, September 23rd.

CHLOROPIDAE.

Chloropisea circumdata (Mg.). Common.

AGROMYZIDAE.

Agromyza reptans (Fln.). Common.

A. nigripes (Mg.). 1 m. June 15th.

A. albitarsis (Ztt.). 1 m. August 20th.

Dizogomyza lateralis (Meq.). Several. July, September.

D. carbonaria (Ztt.). 1 m. September 10th.

D. luctuosa (Mg.). 1 m. August 27th, Whixall Moss.

Phytomyza milli (Kltb.). Common in spring.

All taken at or near Oswestry by C. H. Wallace Pugh, unless otherwise stated.

METEOROLOGY.

A few changes are to be recorded among the observers furnishing returns. Mr. S. G. Bartlett has taken the place of Prebendary Burton at Bitterley; Mr. J. P. Berry has succeeded Mr. J. R. Francis at Oakly Park Gardens; and Mr. Colin McWilliam has succeeded Mr. J. Clark at the Gardens at Sansaw. Mr. J. W. Nowell retired during the year, and Mr. G. H. Salmon has succeeded him at Roden, as manager of the Manchester C.W.S. Estate. Records from Shifnal School are again available, furnished by Mr. W. J. Morris, while Mr. T. F. Chard, who for so many years sent in the Shifnal returns, has moved to Wem, to the new Senior School, and has supplied figures for part of the year. His full records in future years will be very welcome, as representing an area so far unrepresented.

My grateful acknowledgments are again due to Dr. C. Crowther, Principal of the Harper Adams Agricultural College, and to Dr. A. D. Symons, Superintendent of the Monkmoor Isolation Hospital, for the valuable returns from those stations.

The year was, on the whole, mild, with no severe or prolonged frosts, and very little snow. From August 10th to 21st, sustained high temperatures occurred, but this "heat wave" was of less severity in Shropshire than in the south of England, the maximum temperature for the year, recorded in the screen, at Monkmoor and at Harper Adams College, being 89° and 87° respectively on August 19th, as against 91.7° on August 18th, 98.9° on the 19th, and 93° on the 20th, at Greenwich Royal Observatory.

Rainfall was again above the average at our recording stations, though to a less degree than in 1930 and 1931, the excess last year ranging from one to three inches. It would appear, from the Air Ministry's returns, that 1932 was the tenth year in succession with a general fall for the country exceeding the average. We may therefore perhaps look for a compensating cycle of drier years to be approaching.

The spring was backward, owing to a very dry period throughout February and the greater part of March, with temperature below normal, and to wet and cold weather in April and May. This late cold was unfavourable to the main fruit crops.

The summer was, on the whole, good, June and August having rainfall considerably below the average, with much fine weather. The Field Club's "Long Meeting" was specially favoured. Out-door games and sports, and holiday makers generally, enjoyed a good season.

The autumn was generally mild, with little frost, and the trees retained their leaves and tints well into November. October was a wet month, but September showed no excess of rainfall, while November, and December especially, were comparatively dry.

Sunshine was deficient in amount to the extent of 139.7 hours less than in 1931, and 164.7 hours less than in 1930, at Monkmoor.

EARTH TREMOR.—I am indebted to Mr. V. A. Bayley, of Upper Millichope, for information of an earthquake, or strong tremor, occurring there on July 7th at 7 hrs. 37 mins. 27 secs. Greenwich mean time. The shock was strong, accompanied by noise for about two seconds, and slight for a further five or six seconds. This occurrence has not been reported by any other observer, and upon enquiry, it was not observed at Harper Adams College.

MONTHLY NOTES, 1932.

Notes on some chief features of the weather are furnished by :—No. (4) G. W. Lacey, Esq., Oswestry ; No. (6) W. Swire, Esq., Longden Manor ; No. (17) W. Bayliss, Esq., Bridgnorth ; No. (25) Harper Adams College.

JANUARY—

(17) Wind chiefly S.W. Heavy gale 12th, thunder 15th. (25) Frosts on 12 days ; lowest minimum on grass, 24° on 9th. Fog (at 9 a.m.) 3 days.

FEBRUARY—

(4) Lowest recorded rainfall for February. (6) Snow 10th. (17) Wind N.E. or E. Thick fog 19th. (25) Frosts on 17 days. Fog (at 9 a.m.) 5 days. Lowest minimum on grass 19°, on 19th and 21st. Snow on 3 days.

MARCH—

(6) Snow 6th and 11th. (17) Wind N.E. or E. till 17th, then S.W. or W. (25) Frosts on 20 days. Lowest minimum on grass 15°, on 4th and 12th. Fog (at 9 a.m.) on 2 days. Snow on 2 days. Hail on 2 days.

APRIL—

(6) Snow 11th and 12th. (17) Wind N.W. or W. Snow 2nd, 10th, 11th. (25) Frosts on 14 days. Lowest minimum on grass 22° , on 13th. Snow fell on 3 days. Hail on 5 days.

MAY—

(17) Wind chiefly E. or N.E. Thunder 1st. (25) Frosts on 6 days. Lowest minimum on grass 22° , on 8th. Thunder heard 1 day, lightning seen 1 day. Gale 1 day.

JUNE—

(17) Wind chiefly E. Thunder 28th. (25) Lowest minimum on grass 31° , on 5th. From 14th to 18th (5 days) sunshine averaged 13.6 hours per day.

JULY—

(4) Highest rainfall for day recorded—2.69 inches on 12th. (17) Wind chiefly W. Heavy thunder 13th. (25) Lowest minimum on grass 36° , on 6th, 19th, 23rd. Thunderstorms on 11th, 12th, 13th.

AUGUST—

(17) Wind chiefly W. or N.W. Heavy thunder 20th. (25) Lowest minimum on grass 35° , on 28th. Thunderstorm 20th. Thunder heard 1 day. Lightning seen 2 days.

SEPTEMBER—

(17) Wind chiefly W. or N.W. Gale on 2nd. (25) Lowest minimum on grass 20° , on 28th. Frosts on 7 days. Fog (at 9 a.m.) 1 day. Gale 1 day.

OCTOBER—

(17) Wind chiefly W. or N.W. Gale on 17th, 18th, 19th and 30th. (25) Frosts on 15 days. Lowest minimum on grass 20° , on 29th. Fog (at 9 a.m.) on 1 day.

NOVEMBER—

(17) Wind E. or S.E. Dull month with fog. (25) Frosts on 7 days. Lowest minimum on grass 20° , on 6th. Fog (at 9 a.m.) 1 day.

DECEMBER—

(25) Frosts on 15 days. Lowest minimum on grass 15° , on 7th. Fog (at 9 a.m.) on 3 days. Snow fell 1 day. Bees noted flying on Christmas day.

NOTES ON THE WEATHER AS AFFECTING CROPS, Etc.

Mr. G. T. Watson, Burwarton Hall Gardens.—This has been another disappointing season to fruit growers generally. All fruit trees here showed promise of bearing very good crops, as there was an abundance of blossom. Apples and pears and cherries did not set well, owing to the wet, cold and sunless weather during the time of flowering. Gooseberries, currants, and raspberries all gave good crops. Everything looked most promising in the early spring. A very good season for vegetables.

Major W. H. B. Whitaker, Totterton Hall.—Some good hay carried in June. A wet July delayed the harvest, and damaged a certain amount of hay. August and September were good harvest months, though hay was overgrown. Very poor apple and stone-fruit crops. A good wild pheasant year.

P. Compton, Esq., Oswestry School.—The school garden has been much more successful than in previous years, although the weather was unfavourable during April and May.

Mr. J. P. Berry, Oakly Park Gardens.—Mildew very prevalent on onions, peas, and on practically everything subject to it, following a cold spell in July, and a dry June.

The following notes, from Harper Adams College, are of special value and interest, as giving an authoritative review of the year's weather as regards agriculture in the County.

THE EFFECT OF WEATHER ON CROPS IN THE NEWPORT (SHROPSHIRE) DISTRICT DURING THE SEASON, 1932.

On reviewing the weather of 1932, one is at once struck by the great variation from normal in the rainfall from month to month; only 3 months, *viz.*, March, September and November, were anywhere near normal—the rest were either extremely wet or extremely dry, but the nett total of 26.09 inches was practically normal. For this reason the season of 1932, as pertaining to crops, has mainly been described below from month to month.

CEREALS—

After three very wet but mild months, February was extremely dry, and this, with the help of a series of sharp frosts, was of the greatest value in preparing a tilth for the sowing of spring cereals. This promised a good start for these crops, and winter cereals, which at first were hindered by excessive wet, made good growth. The drought of February, however, continued until the 22nd of March, accompanied by strong east winds and hard frosts at night ; this dried up everything completely, and by the 20th all crops were beginning to suffer from lack of rain—pastures were brown, and winter cereals parched ; in addition the germination of the early-sown cereals was considerably delayed. April and May were abnormally wet, with cold weather also persisting until the third week of May, with consequent slow growth of all cereals. After this date the advent of warmer weather and an extremely dry June promoted very rapid growth, although crops were still backward for the time of year, and a late season was expected. July was a disastrous month for many cereal fields, heavy storms both of wind and rain, more especially on the nights of July 3rd, and 11th-13th—the latter three days being thunderstorms—caused serious lodging, from which many fields never recovered. Winter wheat and oats were the chief sufferers. To adjust the balance, the weather of August was ideal, with abnormally high temperatures and low rainfall. Ripening was extremely rapid, and the threat of a late season mainly averted, while cutting and carrying were carried out rapidly under excellent conditions. Yields of all the cereal crops were above normal.

ROOTS—

The wet weather of April seriously hampered the preparation for, and the drilling of, root crops. Many mangold fields were not drilled until May, and early sowing of beet in many cases was impossible. The weather of June was ideal for singling and inter-row cultivations, while growth was very rapid. Swedes and turnips, whenever sown, grew right away, with no check, and 1932 may be said to have been an exceptional season for both crops. Mangold crops were also above the average. Variable reports were received of early sown beet, and many fields were re-sown ; later sown beet did well, and, despite abnormally low sunshine in July,

the sugar content started well, and remained at a good level throughout the season. Potatoes were a good crop, and were likely to keep well.

GRASS—

The drought of February and March, previously commented on, checked early grass, and when it broke on March 22nd, the rapid change in colour of the pastures from brown to green was most striking. Wet conditions during April and May favoured heavy growth, and so, with the dry June to better the quality and give good curing conditions, excellent cuts both of seeds and meadow hay were obtained and carried under excellent conditions. The weather broke on July 9th, and any field uncut or not carried remained in that state for the rest of the month, to be completed under the favourable conditions of August. Aftermath grew well during July, and gave a good second cut that was able to be carried in good condition.

H. E. F. MADDRELL,
Crop Recorder.

*Harper Adams Agricultural College,
February 7th, 1932.*

Last year I included a comparative table of figures observed at three stations in the County, officially rated as first-class Meteorological Stations. This year the figures from two of these stations only are available, as those at the Manchester Co-operative Wholesale Society's station at Roden were incomplete owing to unavoidable interruptions.

Observer :	Harper Adams College. H. E. F. Maddrell.	Shrewsbury, Monkmoor. H. A. Howe.	Average of 26 Observers.
Altitude, Feet	211	184	—
Total Rainfall 1932 ...	26.09	26.14	30.60
No. of Rain Days ...	189	185	192

(Temperature each month in Degrees Fahr.)

	Harper Adams		Shrewsbury, Monkmoor	
	Highest	Lowest	Highest	Lowest
January ...	55	25	58	25
February ...	48	22	51	18
March ...	53	19	55	20
April ...	58	28	58	30
May ...	66	28	69	27
June ...	75	36	76	38
July ...	79	41	80	44
August ...	87	41	89	41
September ...	75	28	76	28
October ...	60	27	62	26
November...	59	23	60	25
December ...	54	19	56	21
Average ...	64.1	28.1	65.8	28.6

SUNSHINE IN 1932,

as recorded at Harper Adams College, and at Monkmoor
Isolation Hospital, Shrewsbury.

MONTH	TOTAL HOURS		SUNSHINE.						Maximum Hrs. Day Hrs. Day	
			Days with more than 1 hr.		Days with more than 0.1 hrs.		Days with none			
	H.A.	M.	H.A.	M.	H.A.	M.	H.A.	M.	H.A.	M.
January ...	50.4	58.4	12	14	16	19	15	12	6.1 8	6.1 11
February ...	50.6	52.0	12	10	17	17	12	12	9.5 28	9.4 28
March ...	104.6	104.0	24	22	26	28	5	3	9.4 1	9.1 1
April ...	111.1	104.5	20	22	26	24	4	6	10.4 12	10.1 22
May ...	78.5	82.2	17	18	21	21	10	10	11.7 17	10.6 17
June ...	205.8	200.5	27	26	29	29	1	1	15.3 15	15.2 15
July ...	105.8	121.5	25	25	29	28	2	3	9.5 2	13.0 9
August ...	149.5	140.0	23	22	27	27	4	4	10.8 17	12.1 17
September ...	126.2	128.5	26	26	29	29	1	1	10.7 7	10.9 7
October ...	76.9	71.3	22	20	25	24	6	7	8.5 28	7.6 28
November ...	38.4	40.8	12	10	18	17	12	13	7.0 5	7.2 5
December ...	47.7	42.4	13	12	19	18	12	13	5.9 25	5.6 25
Total ...	1145.5	1146.1	233	227	282	281	84	85		

Mr. H. A. Howe notes a marked deficiency of sunshine at Monkmoor compared with 1931, 139.7 fewer hours of sunshine having been recorded. May last year had 91.6 hours less sunshine, and October 43.9 hours less. On the other hand, June had 38.9 hours more sunshine, and September 32.5 hours more than in 1931. At Harper Adams College very similar differences were noted.

EXTREMES RECORDED.

		inches
Greatest Rainfall in 24 hours	Radbrook, July 13th	2.95
" " "	Oswestry Reservoir,	
	July 12th ...	2.69
Greatest total fall during year	Oswestry Reservoir ...	38.51
" " "	Burwarton Hall ...	38.09
Least total fall during year	Roden ...	22.91
" " " ...	Shrewsbury, Coton Hill	25.12
Lowest Temperature recorded	Roden, Feb. 19th ...	17°
Highest Temperature recorded	Bridgnorth, Aug. 20th	98°
" " "	Burwarton, Aug. 19th	95°
Wettest months :	April, May, July, October.	
Driest months :	February, June, December.	

M. GEPP.

TABLE No. I. NAMES OF OBSERVERS AND STATIONS.

NO.	ALTITUDE. FEET.	STATION.	OBSERVER.	LATITUDE. ° ' "	LONGITUDE. ° ' "
(1)	894	Burwarton	.. Mr. G. T. Watson	.. 52 27 30	2 34 0
(2)	720	Bishop's Castle	.. E. Griffiths, Esq.	.. 52 30 0	3 0 0
(3)	700	Totterton, Lydbury North	.. Major W. H. B. Whitaker	.. 52 5 0	2 56 30
(4)	698	Reservoir, Oswestry	.. G. W. Lacey, Esq.	.. 52 48 0	3 3 0
(5)	582	Church Stretton	.. Mr. E. J. Marsh	.. 52 30 49	2 49 33
(6)	570	Longden Manor	.. W. Swire, Esq., C.B.E.	.. 52 38 45	2 50 50
(7)	509	Bitterley	.. Mr. S. G. Bartlett	.. 52 23 40	2 38 0
(8)	490	Chirbury	.. Lt.-Col. S. D. Price Davies	.. 52 34 0	3 4 0
(9)	460	Alveley	.. Capt. H. D. Wakeman Colville, R.N.	.. 52 28 20	2 20 0
(10)	450	Oswestry	.. E. Compton, Esq.	.. 52 48 0	3 3 0
(11)	370	Diddlebury	.. V. S. Wrigley, Esq.	.. 52 27 25	2 43 30
(12)	350	Norton-in-Hales	.. C. Chadwick, Esq.	.. 52 56 30	2 26 30
(13)	350	Dorrington	.. Mr. J. A. Narraway	.. 52 37 0	2 45 0

TABLE No. 1—continued.

NO.	ALTITUDE.	STATION.	OBSERVER.	LATITUDE.			LONGITUDE.		
	FEET.			°	'	"	°	'	"
(14)	320	Bromfield	.. F. Brayshaw, Esq. (Warwick House)	.. 52	23	10	2	45	40
(15)	300	Oakly Park	.. Mr. J. P. Berry	.. 52	22	50	2	45	20
(16)	290	Sansaw	.. Mr. Colin McWilliam	.. 52	48	0	2	43	30
(17)	290	Cantreyn, Bridgnorth	.. W. Bayliss, Esq.	.. 52	23	30	2	25	40
(18)	283	Shifnal	.. Mr. W. J. Morris	.. 52	40	11	2	31	30
(19)	280	Newport	.. Col. R. Leeke	.. 52	46	40	2	32	30
(20)	271	Whitchurch	.. Mr. M. W. Sowden	.. 52	56	30	2	45	0
(21)	265	Wem	.. Mr. T. F. Chard	.. 52	52	0	2	45	0
(22)	252	Shrewsbury (Cophthorne)	.. Mr. W. H. Purslow	.. 52	42	30	2	46	40
(23)	238	Fitz Rectory	.. Rev. W. Brewster	.. 52	45	20	2	49	10
(24)	235	Radbrook, Shrewsbury	.. D. D. Macpherson, Esq.	.. 52	42	0	2	46	45
(25)	211	Harper Adams College	.. H. E. F. Maddrell, Esq.	.. 52	46	0	2	36	0
(26)	209	Roden	.. G. H. Salmon, Esq.	.. 52	44	30	2	37	40
(27)	190	Shrewsbury (Coton Hill)	.. Dr. M. Gepp	.. 52	42	40	2	45	55
(28)	184	do. (Monkmoor)	.. Mr. H. Howe	.. 52	43	10	2	43	10

TABLE No. 2.

MONTHLY RAINFALL IN INCHES.

(The Average Rainfall column is taken from figures given in "British Rainfall, 1931," issued by the Air Ministry).

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTAL.	Average Rainfall.
(1) Burwarton	...	3.95	.33	2.64	6.00	5.63	1.26	5.06	1.85	3.54	4.36	2.09	1.38	38.09	33.6
(2) Bishop's Castle	...	4.32	.24	3.12	3.76	4.81	.71	3.59	1.70	2.60	5.55	2.27	1.79	34.46	31.0
(3) Totterton	...	3.72	.29	2.58	3.41	4.41	.98	4.47	1.38	2.38	5.13	1.95	1.84	32.54	
(4) Oswestry Reservoir		4.12	.14	2.90	5.26	4.04	.82	6.37	1.58	2.92	5.99	2.57	1.80	38.51	34.5
(5) Church Stretton	...	3.90	.30	3.11	4.88	4.38	1.15	3.96	1.46	3.02	6.02	2.62	1.69	36.49	33.7
(6) Longden Manor	...	3.63	.22	2.36	4.18	4.53	.43	4.48	1.64	2.21	4.61	1.80	1.13	31.22	
(7) Bitterley	...	1.70	.18	2.05	3.99	5.78	.99	3.06	2.74	2.73	4.37	1.72	1.74	31.05	
(8) Chirbury	...	4.00	.16	3.01	3.15	4.16	.54	4.63	1.47	2.27	4.50	1.99	1.21	31.09	29.5
(9) Alveley	...	2.32	.26	1.51	4.08	5.87	1.14	3.90	2.29	3.02	3.77	1.81	1.03	31.00	27.8
(10) Oswestry	...	3.76	.03	2.41	5.10	3.71	.57	5.43	1.28	2.45	5.97	1.68	1.38	33.77	32.4
(11) Diddlebury	...	3.18	.17	2.85	4.52	4.46	1.01	2.58	2.27	2.60	4.63	1.78	1.67	31.72	
(12) Norton-in-Hales	...	2.87	.29	1.77	3.33	5.21	.19	3.75	2.11	1.75	4.79	2.18	1.21	29.45	30.5
(13) Dorrington	...	4.15	.19	2.76	4.32	4.72	1.00	3.66	1.35	2.37	4.55	2.36	1.31	32.74	

TABLE No. 2--continued.

																Average
			JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTAL	Rainfall
(14)	Bromfield	...	3.85	.11	1.97	3.94	4.81	1.20	2.93	2.85	2.91	4.76	1.70	1.68	32.71	30.3
(15)	Oakly Park	...				3.42	5.25	.96	2.87	2.19	2.18	3.71	.65	1.36		29.7
(16)	Sansaw	...	2.84	.15	2.02	3.95	4.47	.67	3.76	1.92	2.40	4.40	2.05	1.44	30.07	25.7
(17)	Cantreyn, Bridgnorth		2.53	.11	2.09	3.49	4.99	.96	3.47	2.88	2.34	3.51	1.54	1.07	28.98	26.7
(18)	Shifnal...	...	2.38	1.52	1.81	3.53	5.65	.28	3.33	2.30	2.01	4.10	2.76	.95	30.62	28.2
(19)	Newport	...	2.64	.16	1.77	3.03	5.15	.53	3.64	1.75	1.89	4.61	1.86	1.05	28.08	27.7
(20)	Whitchurch	...	2.56	.09	1.59	3.19	4.29	.77	3.93	2.15	2.09	4.53	2.01	.98	28.18	27.1
(21)	Wem	...										2.97	1.66	.90		
(22)	Shrewsbury (Copthorne)		2.83	.12	2.16	3.75	4.06	.93	4.58	1.29	1.75	3.75	1.09	.80	27.11	
(23)	Fitz	...	2.32	.17	2.17	4.04	4.29	.78	4.26	1.66	1.43	4.64	2.11	.88	28.75	26.2
(24)	Radbrook, Shrewsbury		2.88	.20	2.13	3.63	4.24	.78	5.06	1.28	2.04	3.92	1.57	1.02	28.75	24.3
(25)	Harper Adams College		2.70	.13	1.73	2.76	4.32	.43	3.64	1.75	1.76	4.06	1.89	.92	26.09	24.8
(26)	Roden	...	2.24	.05	1.76	3.20	4.42	.55	2.35	1.11	1.63	3.87	1.20	.53	22.91	25.2
(27)	Shrewsbury (Coton Hill)		2.32	.11	1.95	3.52	3.95	.79	3.91	1.27	1.66	3.57	1.27	.80	25.12	22.1
(28)	Shrewsbury (Monkmoor)		2.56	.11	1.93	3.68	3.93	.60	4.41	1.29	1.63	3.75	1.33	.92	26.14	
															Total for year	795.64
															Average for year	30.60

TABLE No. 3. GREATEST RAINFALL IN 24 HOURS, WITH DATES.

	Jan. Day	Feb. Day	Mar. Day	Apr. Day	May Day	June Day	July Day	Aug. Day	Sept. Day	Oct. Day	Nov. Day	Dec. Day
(1) Burwarton ...	.60 10	.06 9-13	.50 27	1.20 4	.95 1	.84 30	1.40 16	.80 20	.63 22	.50 8	.44 4	.36 31
(2) Bishop's Castle ...	.80 9	.12 9	.56 27	.52 26	.95 1	.47 30	.65 13	.83 20	.50 22	1.27 7	.45 4	.35 31
(3) Totterton ...	.70 6-8	.10 9	.56 28	.75 26	.79 1-21	.68 30	1.00 24	.65 20	.53 25	1.24 7	.51 4	.33 31
(4) Oswestry Res'r ...	.74 6	.10 9	.67 27	1.00 3	.58 20	.48 30	2.69 12	.41 20-29	.41 22-29	.98 7	.48 30	.27 29
(5) Church Stretton ...	.72 9	.10 9	.61 28	.71 3	.85 1	.80 30	1.05 13	.77 20	.64 22	1.15 7	.80 30	.31 31
(6) Longden Manor ...	1.22 6	.07 10	.40 28-30	.88 4	.64 2	.13 11	1.65 14	.65 21	.62 23	1.08 8	.47 30	.30 30
(7) Bitterley ...	.30 5	.06 9	.35 27	.68 4	1.22 1	.70 30	.52 16	1.04 30	.51 22	.77 7	.42 4	.34 29-31
(8) Chirbury ...	.75 5	.11 14	.49 30	.68 3	.78 1	.32 30	1.03 12	.65 20	.60 22	1.19 7	.39 30	.31 29
(9) Alveley ...	.42 5	.05 13	.39 27	.78 4	1.07 20	.62 30	1.08 13	1.68 20	.93 8	.81 7	.40 4	.26 31
(10) Oswestry ...	.62 6	.02 11	.50 30	1.07 3	.59 20	.36 30	2.27 12	.40 20	.39 22	.97 7	.31 30	.31 3
(11) Diddlebury ...	.67 9	.05 9	.65 27	.79 4	.89 1	.71 30	.64 13	1.50 21	.55 22	.66 7	.44 4	.33 31
(12) Norton-in-Hales ...	.65 6-16	.07 9	.33 22	.72 3	.65 15	.11 29	.48 22	.56 20	.32 22	.55 30	.41 24	.27 1
(13) Dorrington ...	.77 5	.03 1	.69 29	.60 2	.51 1	.44 30	1.51 13	.50 20	.51 21	1.02 7	.37 6	.24 15
(14) Bromfield ...	1.19 9	.04 9	.45 27	.62 4	.92 1	.97 30	.26 11	1.90 20	.48 22	.63 7	.45 4	.37 31
(15) Oakly Park ...				1.00 5	1.05 2	.87 30	.50 11	1.75 21	.37 7	.60 8	.41 17	.37 1
(16) Sansaw ...	.58 6	.05 1	.40 27	.82 3	.55 20	.20 30	.71 13	.56 21	.45 22	.81 7	.39 30	.17 29-30
(17) Cantreyn, Bridgnorth...	.46 5	.04 25	.38 27	.46 4	.95 1	.52 30	1.38 13	2.28 20	.71 22	.72 7	.35 4	.22 31
(18) Shifnal ...	.45 11	.12 26	.40 28	.44 4	.77 2	.09 30	.88 11	1.16 22	.50 23	1.00 7	.84 1	.24 1
(19) Newport ...	.56 6	.04 1-9	.34 27	.54 3	.94 23	.37 30	.30 13	.98 20	.35 22	.59 7	.38 24	.28 29
(20) Whitchurch ...	.46 6	.07 9	.29 29	.55 3	.59 20	.30 30	.95 13	.45 1	.38 22	.50 21	.41 4	.33 29
(21) Wem ...										.29 10	.23 23	.34 1
(22) Shrewsbury, Cophthorne ...	.55 6	.05 9	.43 21	.90 3	.54 23	.33 30	2.44 13	.56 20	.40 22	.85 7	.23 30	.24 29
(23) Fitz ...												
(24) Radbrook, Shr'y ...	.50 5-16	.04 10	.34 26	.93 3	.52 20-23	.30 30	2.95 13	.54 20	.45 22	.89 7	.35 4	.24 29
(25) Harper Adams College ...	.57 6	.03 9	.32 27	.51 3	.48 1	.30 30	.70 13	.61 20	.38 22	.53 7	.37 23	.30 29
(26) Roden ...	.54 6	.03 9	.42 27	.73 4	.50 2	.20 30	.76 13	.27 20	.40 22	.54 7	.30 4	.13 29
(27) Shrewsbury, Coton Hill ...	.53 6	.05 9	.31 27	.84 3	.51 23	.39 25	2.24 13	.55 20	.45 22	.78 7	.34 4	.20 29
(28) Shrewsbury, Monkmoor ...	.57 6	.05 9	.36 27	.83 3	.48 1-20	.25 30	1.85 13	.56 20	.44 22	.84 7	.32 4	.22 29

TABLE No. 4.

RAINY DAYS.

A Rainy Day means a day in which at least .01 of rain fell.

			JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL
(1) Burwarton ...	...	...	16	8	12	25	25	5	24	9	21	24	15	8	192
(2) Bishop's Castle ...	...	...	15	6	14	23	23	4	21	6	20	20	18	13	183
(3) Totterton ...	...	...	17	8	14	25	21	5	22	7	16	23	20	19	197
(4) Oswestry Reservoir ...	...	...	18	4	13	26	24	4	20	8	19	24	21	20	201
(5) Church Stretton...	...	...	16	9	14	25	25	7	22	9	19	27	19	18	210
(6) Longden Manor ...	...	...	17	11	14	27	21	6	21	9	16	24	17	17	200
(7) Bitterley ...	...	...	13	8	14	22	24	5	19	9	20	27	22	17	200
(8) Chirbury ...	...	...	17	4	15	26	24	5	20	6	17	22	16	16	188
(9) Alveley ...	...	...	19	11	12	23	24	6	19	6	16	23	20	15	194
(10) Oswestry ...	...	...	12	2	13	27	24	4	20	8	16	23	19	17	185
(11) Diddlebury ...	...	...	16	10	14	26	25	6	20	7	20	25	20	19	208
(12) Norton-in-Hales...	...	...	18	11	12	23	25	3	24	11	20	28	24	17	216
(13) Dorrington ...	...	...	19	6	13	28	27	6	22	6	22	28	22	18	217

TABLE No. 4—continued.

					JAN.	FEB.	MAR.	APL.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL
(14)	Bromfield	...	...	...	19	5	14	27	24	5	22	8	19	26	19	18	206
(15)	Oakly Park	...	...	...				19	20	4	11	4	9	16	5	7	
(16)	Sansaw	...	...	...	13	6	13	24	24	7	21	11	20	25	20	19	203
(17)	Cantreyn, Bridgnorth	...	...	...	15	4	12	24	25	6	18	6	18	21	17	14	180
(18)	Shifnal	...	...	...	13	4	8	21	21	6	18	9	13	18	15	9	155
(19)	Newport	...	...	...	14	7	11	23	23	3	20	9	20	21	18	14	183
(20)	Whitchurch	...	...	...	17	2	11	22	21	4	19	10	20	20	19	12	177
(21)	Wem	...	...	...	...									10	11	7	
(22)	Shrewsbury (Copthorne)	...	...	...	14	6	13	26	23	7	20	8	15	21	18	14	185
(23)	Fitz	...	...	...	11	4	13	24	20	6	26	8	15	22	16	14	179
(24)	Radbrook, Shrewsbury...	...	...	...	16	10	16	20	25	7	20	8	19	25	20	19	211
(25)	Harper Adams College	...	...	...	15	8	11	23	24	5	20	10	19	21	16	17	189
(26)	Roden	...	...	...	13	3	11	23	23	4	20	8	18	22	11	10	166
(27)	Shrewsbury (Coton Hill)	...	...	...	15	6	13	25	24	6	20	8	17	21	17	13	185
(28)	Shrewsbury (Monkmoor)	...	...	...	14	5	13	26	23	5	22	8	15	21	18	15	185

Total	4995
Average of 26 stations	192

TABLE No. 5.
TEMPERATURES—HIGHEST AND LOWEST, WITH DATES.

HIGHEST TEMPERATURE												
	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
(1) Burwarton ...	57 22	59 16	58 31	62 30	68 17-22	81 24	86 9	95 19	80 15	61 5, 10, 26	58 2-4	53 25
(6) Longden Manor	54 3-18	48 22-23	54 22	57 29	71 17	78 27	83 10	86 19	76 14	59 2-7	58 2	54 17-18
(12) Norton-in-Hales	55 3-4	49 16	54 28	62 29	70 14	80 29	81 10	83 19	75 2	62 1	58 2	53 17-18
(16) Sansaw ...	53 3	48 22	56 23	68 30	69 20	79 27	85 9	84 19	71 2	58 7	54 3	52 19
(17) Cantreyn, Bridgnorth ...	56 3	51 22	56 23-31	60 28-29-30	71 14-17, 31	83 27	88 10	98 20	80 2	62 4-7	63 2	52 17
(18) Shifnal ...	55 20	51 9	58 15-24	65 6	73 19	76 11	69 21	93 2	80 22-25	62 10	60 6	55 18
(21) Wem ...				73 14	85 17	90 27	95 11			70 7	62 2	55 20
(25) Harper Adams College ...	55 3-6	48 2-22	53 14-22	58 30	66 17	75 16-27	79 10	87 19	75 14	60 7	59 2	54 16-17
(26) Roden ...	56 20	50 22	57 25	55 14	66 16							
(28) Shrewsbury, Monkmoor ...	58 18	51 22	55 2-22	58 9, 29-30	69 17	76 17-27	80 10	89 19	76 14-15	62 22	60 2	56 16

LOWEST TEMPERATURE.												
	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
(1) Burwarton ...	24 8	21 9	23 11	28 2, 4, 11-12	25 7	36 5-6	42 17, 18 22	45 23	34 27	28 28	28 20	26 6-7
(6) Longden Manor	28 27	23 10	26 2-4, 12	31 5-12	31 6	39 5	45 18	49 24-28	36 28	34 4-29	30 11	27 7
(12) Norton-in-Hales	22 1	18 11	18 11	21 5	27 8	35 5	42 19	40 28	28 28	25 29	26 21	22 7
(16) Sansaw ...	28 30	23 9	23 3	28 4	30 5	39 5	46 18	46 27	32 27	28 28	27 5	23 5
(17) Cantreyn, Bridgnorth ...	24 3	19 18	18 12	28 2-4, 12	27 7	34 5	40 18	42 27	28 27	27 9	25 10	24 5-6
(18) Shifnal ...	26 1	23 25	23 3-14	31 13	30 9	39 5	49 7	50 26	35 18	32 6	32 21	30 8
(21) Wem ...				28 6	32 14	34 5	45 19			27 4	31 11	23 6, 7, 8
(25) Harper Adams College ...	25 26-31	22 19	19 12	28 5-13	28 8	36 6	41 23	41 28	28 28	27 4-29	23 6	19 7
(26) Roden ...	25 31	17 19	19 4	28 4	28 8							
(28) Shrewsbury, Monkmoor ...	25 26	18 19	20 4	30 3-5, 13-27	27 17	38 6	44 19	41 28	28 28	26 4	25 11	21 6